User's guide

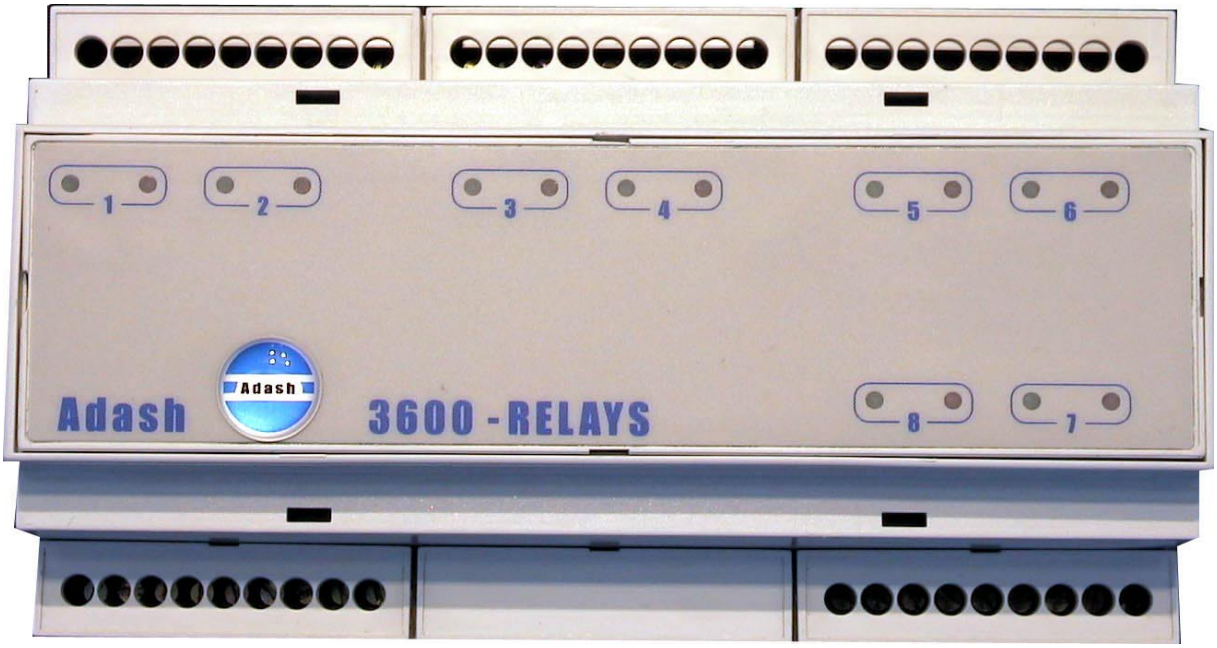
Relay Outputs
Adash 3600-REL

Application:

- Output relays unit of the Adash 3600 on-line monitoring system
- State indication of up to eight measuring channels

Characteristics:

- 16 relays with a switching contact, separated in 8 groups
- A switching contact AC 250 V / 5 A or DC150 V / 5 A
- Relay closing indication by a LED indicator
- Indication of four different states of each measuring channel
- User assignment of relays groups to measuring channels via the Adash 3600 Setup program
- User configuration of the state indication of each channel via the Adash 3600 Setup program
- Capability to connect up to 8 those modules to one Adash 3600 set



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Terminal Board of the Adash 3600-REL Module

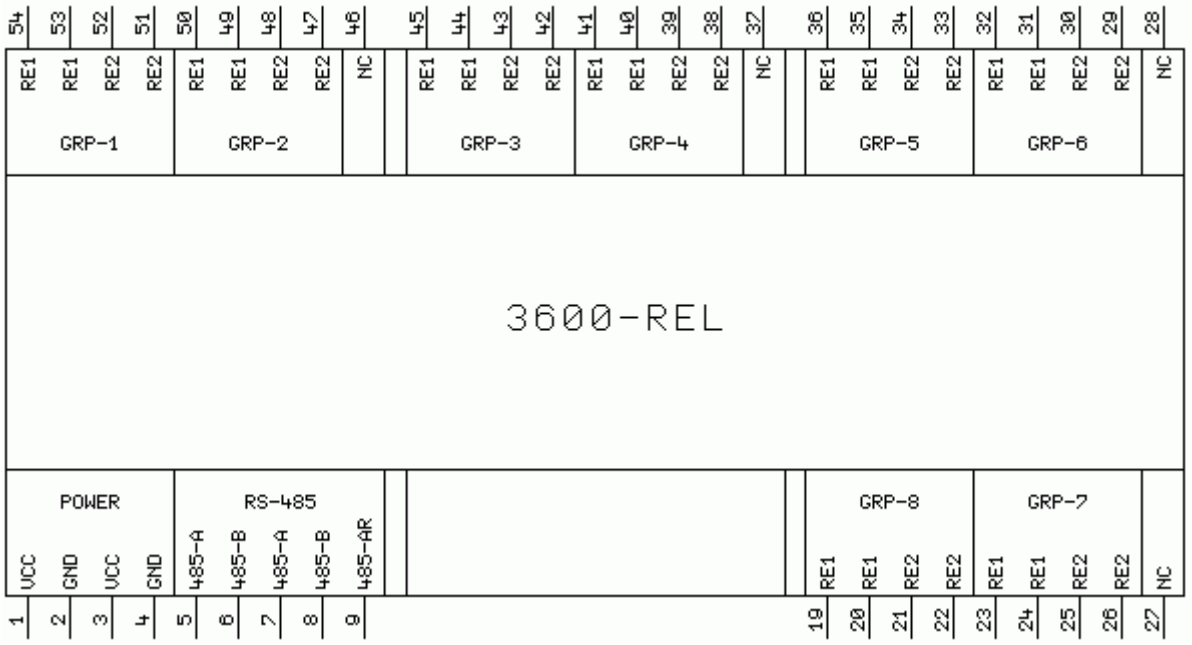

Fig. Terminal board of the Adash 3600-REL module

The display of the terminal board corresponds to the front view of the module.

Description of Terminal Connectors

POWER supply voltage (terminal connectors with the same marking are interconnected inside):
VCC +5 V / 350 mA (8 relays closed simultaneously), 620 mA (16 relays closed simultaneously),
GND 0 V.

RS-485 communication connection for the Adash 3600 system (terminal connectors with the same marking are interconnected inside):
485-A signal A of RS-485,
485-B signal B of RS-485,
485-AR termination resistance 120R, for the termination of the interface to connect to terminal connector 485-B.

GRP-1..GRP-8 output groups, two relays each, for the indication of state of the assigned signal channel:
RE1 switching contact of the first relay (green indicator),
RE2 switching contact of the second relay (red indicator).

NC terminal connector not connected.

WARNING:
The output relays of the Adash 3600-REL module use only a switching contact, whereas the Adash 3600-MAIN module uses a change-over contact.
The current load of the relay contacts is up to 5 A (see Technical Specification of the module).

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Description of Adash 3600-REL

The Adash 3600-REL module serves to indicate the state of up to 8 analogue channels. ***The module has 8 relay groups, each group is made of two relays: RE1 with a green indicator and RE2 with a red indicator.*** Each relay group can be assigned to the selected input channel of the Adash 3600-MPX module.

Each relay group can indicate the following states of signals measured on the assigned channel:

State	Description of the state of signals measured on the channel	Signalling default setting	
ERROR	Error of sensor connection or power OFF	**RE1 open**	**RE2 open**
OK	Value of all the measured signals OK	**RE1 close**	**RE2 open**
ALERT	Measured signal exceeded the *ALERT* limit	**RE1 "flashes"**	**RE2 open**
DANGER	Measured signal exceeded the *DANGER* limit	**RE1 open**	**RE2 close**

One or more signals can be measured on the assigned channel. The ALERT or DANGER conditions indicate that at least one of the measured signals on the assigned channel exceeds the defined limit. On the other hand, the OK state indicates that none of the signals measured on the assigned channel exceed the ALERT or DANGER conditions.

The evaluation of the channel and the state of all the signals measured as well as the control of the Adash 3600-REL module is performed by the main set unit the Adash 3600-MAIN. ***For a description of the ALERT and DANGER signal level settings for relay switching see the Adash 3600 Setup User's manual.***

Each relay of the group can be programmed for the indication of state for one of the following functions:

DISCONNECT **relay open**, i.e. contact open,
CONNECT **relay close**, i.e. contact close,
BLINK **relay "flashes"**, i.e. contact closes and opens at an interval of approx. 300ms,
NO CHANGE **relay remains unchanged**, i.e. contact remains in the same position.

The assignment of the indicated channel to a relay group and the definition of the behaviour of RE1 and RE2 relays for each group is done by means of a configuration program (see ***Adash 3600 Setup***, User's manual). Each newly supplied module 3600-REL has a default configuration from the manufacturer. The default configuration of the groups ensures that at no time are more than 8 relays on the module closed simultaneously, which corresponds to the entire module consumption of 350mA.

The relay closing is indicated by LED, located on the front part of the module.

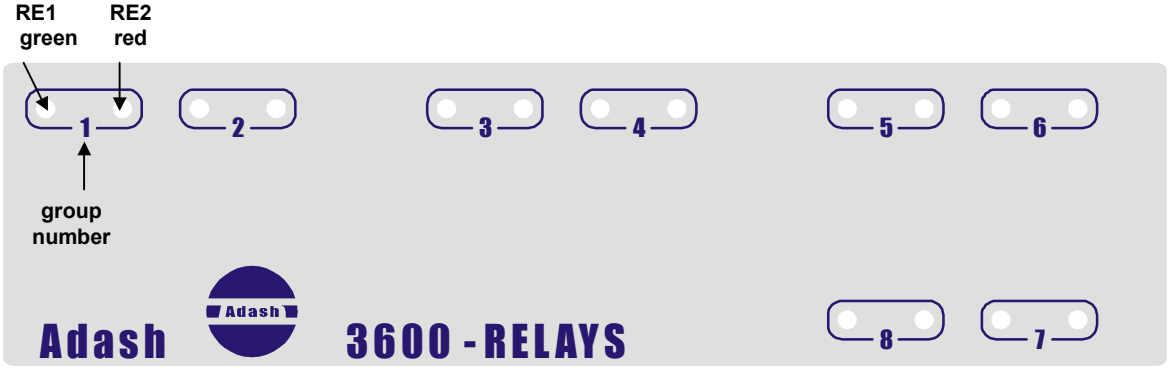

Fig. View of the front panel of the Adash 3600-REL module

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Extending the Set with the Adash 3600-REL Module

The connection of the Adash 3600-REL module to the Adash 3600 system is done according to the following schematic:

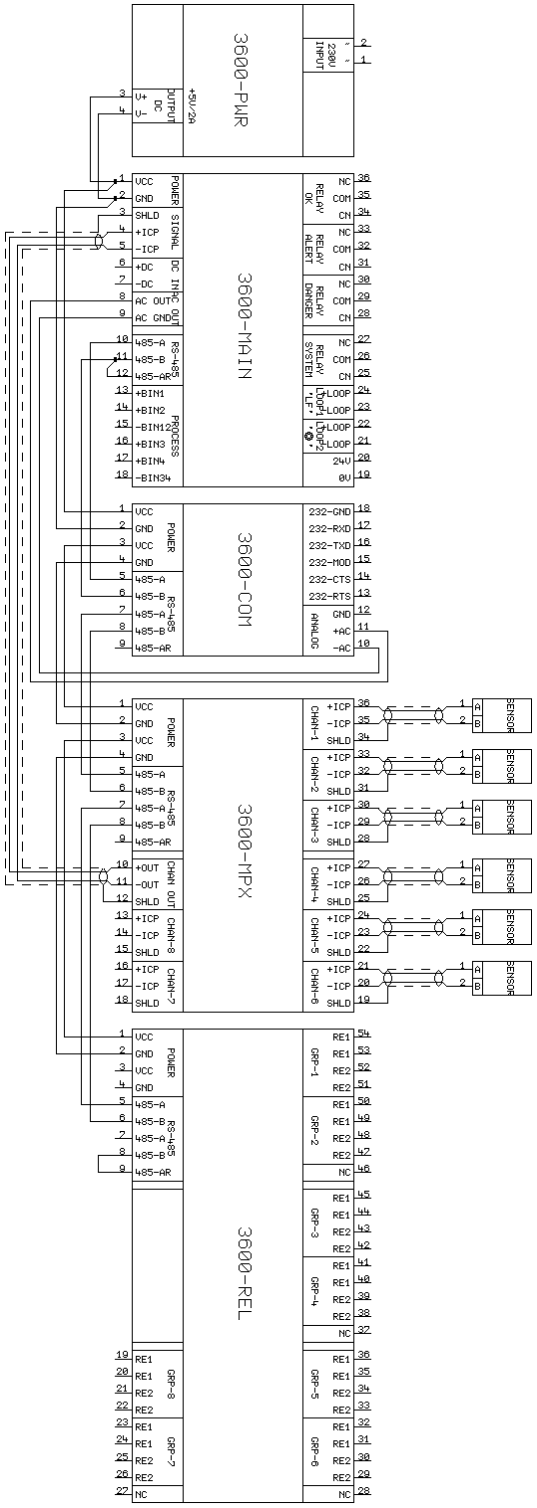

Fig. Schematic of connection of the 3600-MPX and 3600-REL modules to the Adash 3600 system

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Recommended Procedure of Module Connection

1. Disassembly of the terminal connector covers.

Remove the terminal connector covers of the modules by means of a suitable tool.

Fig. Removal of the terminal connector covers

2. Break the interconnection of terminal connectors 485-B and 485-AR at the set end module (3600-MPX).

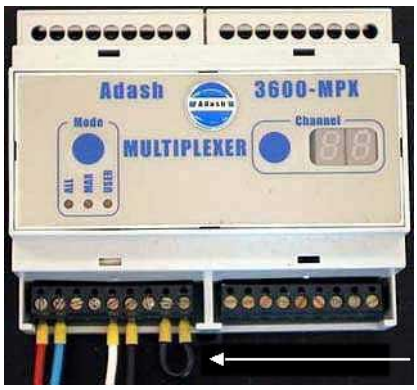

Fig. Interconnection at the end module 3600-MPX

At the end module of the set (in this case 3600-MPX) there is a resistance termination of RS-485 via an interconnection of terminal connectors 485-B and 485-AR. This interconnection must be removed and installed at the end module of the extended set (in this case 3600-REL).

3. Interconnection of supply terminal connectors (VCC and GND).

The supply conductors are identified by the following colours in the supplied set:

- red conductor, positive pole of the supply (+5 V, VCC)
- blue conductor, negative pole of the supply (GND).

Pay attention to the correct polarity of the supply voltage! The positive voltage is always at the first terminal connector on the left.

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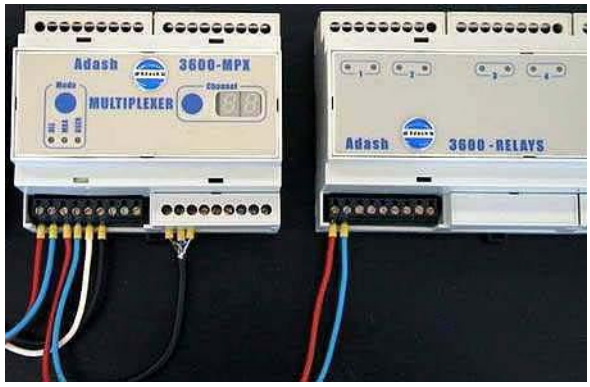

Fig. Interconnection of supply conductors

4. Connection of communication terminal boards (485-A, 485-B) and interconnection (485-B, 485-AR) of the 3600-REL module.

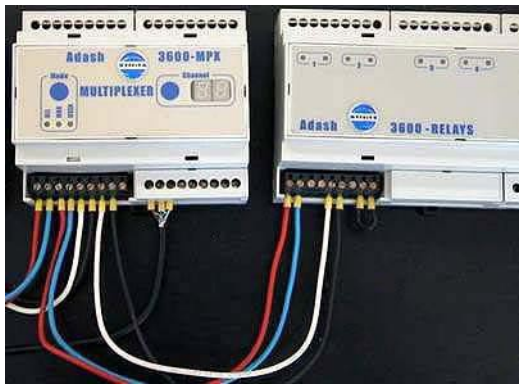

Fig. Interconnection of communication conductors

The communication conductors are identified by the following colours in the supplied set:

- white conductor, signal A of RS-485
- black conductor, signal B of RS-485.

5. Replace the terminal connector covers.

NOTICE.

Each module of Adash 3600 system has individual unique internal address on RS-485 - see User's guide Vibration Monitoring System Adash 3600 (3600main-com-pwr_man_en.pdf - List of Module Numbers on Interface RS-485 chapter). Each supplied system is pre-configured by producer.

- If you work with several systems, do not change individual modules between systems without check of each address (via Adash 3600 Setup software).
- Regarding repairs and upgrades contact your supplier for correct order information. Then you will receive each module configured correctly.

If you do not respect this rules, then communication conflicts appears and the system will not work.

The extension of the Adash 3600 set with the 3600-REL module is completed and the system is ready for measurement.

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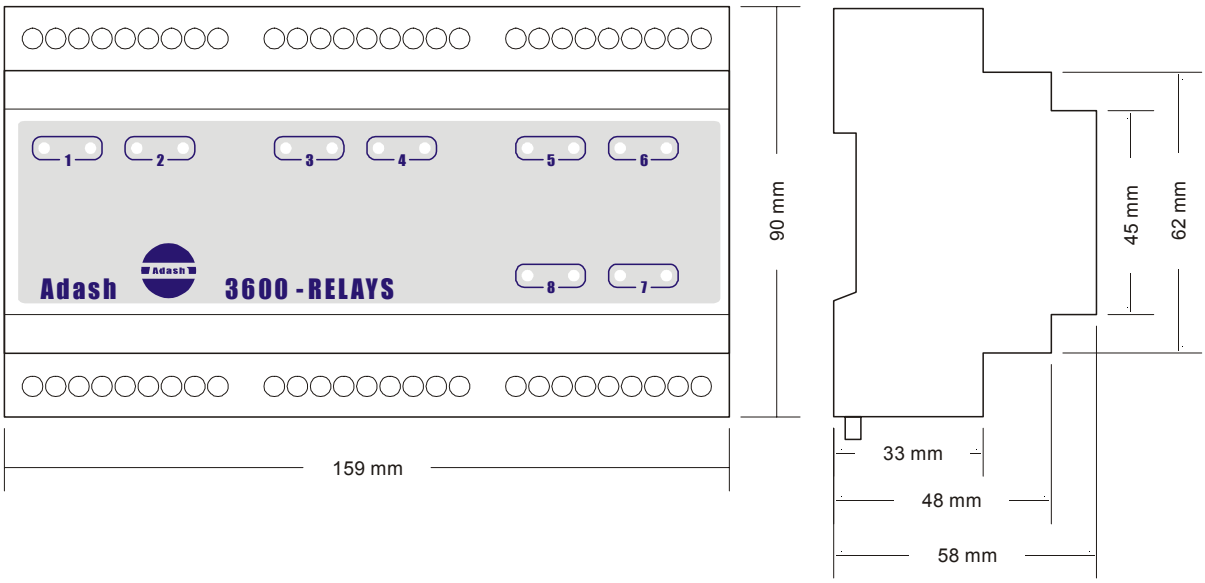
Technical Specification of Adash 3600-REL

Outputs:	- 16 relays with the indication of closing in eight groups by two relays
Relay:	- 1x switching contact - max. 250 V AC / 5 A -> 1250 VA - max. 150 V DC / 5 A, for 30 V DC -> 150 W
Interface:	- RS-485 for the communication between modules of the Adash 3600 set
Control:	- by the main unit Adash 3600-MAIN
Unit setting:	- using the 3600 Setup program via communication unit Adash 3600-COM or Adash 3600-NET
Protection:	- IP20
Temperature range:	- -10 °C to +50 °C
Supply:	- +5 V / 350 mA (8 relays closed simultaneously), 620 mA (16 relays closed simultaneously)
Dimensions:	- 159 x 90 x 58 mm
Weight:	- 350 g
Mounting:	- DIN rail

Dimensioned Sketch of Adash 3600-REL



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